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ABSTRACT

This paper examines the preventive model in special education and applies it to the assessment of gifted students and the delivery of educational services to them. First, characteristics of the model are identified, which include emphasis on the interaction between the learner and the environment, use of both formal and informal assessments, and integration of students in regular classrooms with a modified curriculum. When applied to gifted students, the model is seen as facilitating ongoing assessment, teacher collaboration in determining appropriate programming, and ongoing program evaluation. Strengths of the model for gifted education include better evaluation of students' domain-specific gifted-level competencies, facilitation of the decision-making process in programming decisions, identification of the student's learning preferences, and elimination of the need to define giftedness, since assessment is competency based. Disadvantages of the model include the time required for continuous assessment and its dependence on skilled teachers and resource staff. The model is compared with several other perspectives, including developmental theory, the dynamic approach, and incremental theory. Specific recommendations for gifted education urge decision-making based on competencies and not labels, use of multiple forms of assessment, use of above-level testing in domain-specific areas, and assessment of social skills. (Contains 21 references.) (DB)

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THE PREVENTIVE APPROACH TO SPECIAL EDUCATION
AS APPLIED TO GIFTED EXCEPTIONALITY:
A FOCUS ON ASSESSMENT

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Abstract

Literature on the Preventive Approach to Special Education usually refer to low ability exceptionality or to integration in general. This paper presents an application of the Preventive Model of delivering services to gifted students in the school setting, with a focus on assessment from a Preventive perspective, specific to gifted exceptionality. The author describes the Preventive Model, discusses the model as it applies to gifted identification and assessment and highlights the strengths and concerns of the model with regards to gifted education. The Preventive Approach is compared to three perspectives on intelligence to facilitate an appreciation of the Approach's sensitivity towards giftedness and ultimately the assessment of gifted students.

Preventive beliefs are rooted in ecological perspectives which acknowledge the influence of environmental variables on the student's learning and behaviour (Jordan-Wilson & Silverman, 1991). Any problems that the student is encountering are partially attributed to environmental factors, and in this case the focus is on the instructional environment, to solve the student's learning needs (Jordan, Kircaali-Iftar & Diamond, 1993). According to Jordan-Wilson et al. (1991, p.199), "preventive" in the educational context means "interrupting the pupil's slide into academic failure", by conducting early assessments to detect difficulties and by carrying out informal interventions to prevent further escalation of the student's difficulty (Wilson, 1984). Assessment is carried out with the aim of answering: a) How does the instructional environment affect the student's learning and performance? and b) What can be done to the instructional environment to improve the pupil's learning and performance?

Assessment of the environmental factors in the Preventive Approach is supported by a formula put forth by Englemann, Granzia & Severson (1979). Behaviour (B) is seen as a combination of the individual's predisposition (P) (that which is not affected by instruction) and the instructional environment (I): $B = P + I$. Predisposition is unknown and difficult to decipher, and when considering above average exceptionalities, many theorists have argued that intelligence is arbitrary and relative to cultural and educational values (Gardner, 1983; Gould, 1981). The instructional component however, is open to manipulation and greater understanding. Therefore, it is this latter component which educators can use to affect behavioral and academic performance. According to this model, the direction of behaviour changes (positively or negatively) depending on the quality of the instructional environment, and the match between the instructional environment and the student's level of ability and skills.

Characteristics of the Preventive Model

The Preventive Approach promotes a very dynamic and active process to

educating learners of varying abilities. This dynamism occurs at several levels. Firstly, the approach is based on the interaction between learner/learning and the environment. The more stimulating the environment is made, the more learning will increase. Secondly, this stimulating environment relies heavily on continuous assessment to discover the way in which a student learns and the level of mastery (eg. mastery in content and cognitive skills), which will facilitate programming to suit the learner's needs and level of functioning (Bolg & Day, 1993, p.110). The use of continuous, informal assessments of the instructional environment before referral provides opportunities to monitor the student's progress and instructional outcomes, to record what strategies work or do not work, to identify instructional approaches and resources that have not been used yet, and to discover if poor instruction is really the result of the student's difficulty. Continuous assessment also gives rise to early detection of a mismatch between learner and program, therefore early prevention of problems and difficulties experienced by the learner can be avoided or decreased (Jordan et al., 1993; Jordan-Wilson et al., 1991; Salvia & Yssledyke, 1991). Ongoing assessment of the student's learning in relation to the curriculum modification allows for programming more appropriate and challenging activities, eventually aiding in the student's academic advancements.

The approach is also open to using data from formal and informal assessments, which provides a more holistic and valid view of the child's ability (Wilson, 1984; Bolg et al., 1993; Reschly, 1980). Informal assessments make up for the inadequacies of standardized testing which is static in nature and not as contextually-relevant for programming purposes. The informal assessments provide more information on the student's process of learning, learning style and pace, while the formal assessments give more product-oriented information of the student's mastery of skills and subject areas. Such a combination contributes to a more balanced view of the student's learning and level of functioning, which provides a better picture for programming. This model is flexible with regards to the manner in which educational services are delivered as it includes the options of integration, segregation and reintegration, as appropriate to the individual student's educational needs (Wilson, 1984).

Integration is seen on several levels. Overall, and consistent with the current political climate in many jurisdictions, the Preventive Model pushes for integration of exceptional students in the regular classroom. However, if the students' needs cannot be met in the regular classroom, then the model is open to allowing students to be placed in an appropriate segregated environment. The model encourages reintegration on a full-time or part-time basis, depending on the needs of the student. The placement of students is dictated by the availability and appropriateness of the resources for the student, and not by a static label or category. Integration is not seen only as the physical placement of the student in the regular classroom, but also as the presence and integration of special education resources and knowledge into the regular classroom setting (Wilson, 1984, p.245). This approach greatly decreases the need for special and segregated programs. This method of integration emphasizes the collaboration of staff in planning together in assessment and programming to meet students' needs.

There is also a joint effort to help students reintegrate into the regular classroom as this becomes a more appropriate placement (Wilson, 1984; Jordan-Wilson et al., 1991).

The next level of integration proposed in the Preventive Model concerns curriculum (Wilson, 1984, p.240). Exceptional students are given a modified version of the regular curriculum instead of a "specialized" or "segregated" curriculum, so that they are better able to continue within the normal educational system. This approach clearly enhances their future academic and career choices when contrasted with situations where specialized curriculum provide little preparation for movement within the customary education system.

The Preventive Approach is more informed and less biased. The model is well-informed with respect to pre-referral information on assessment and intervention strategies that have been used with the student and indicates different aspects of the student's learning (Ysseldyke, Thurlow, Graden, Algozzine & Deno, 1983; Reschly, 1980). The model is less prone to biases based on labelling and categorizing for specialized placements, since there is a focus on assessing and monitoring strengths and weaknesses in subject and skill areas (Bolg et al., 1993; Hatch & Gardener, 1985).

The model is also collaborative in nature, which contributes to its more informed and less biased characteristics. The collaboration of teachers and specialists at the pre-referral and post-identification stage also provides more perspectives to assessment and programming. The old adage, two heads are better than one applies in this case.

The Preventive Model: Application to Gifted Education

The identification of students whose exceptional educational needs arise from above-average achievement in various domains, would be facilitated by the use of continuous and informal assessments by the regular classroom teacher, as recommended by the Preventive Model. Such assessment would record the students' learning history, in terms of learning strengths, weaknesses, styles, skills and other learning characteristics.

Since assessment in the Preventive Model takes various forms, the teacher uses a variety of tools to collect data on the students' learning. The teacher observes and records a student's change in behaviour and attitudes to work, academic and other performance from beginning to the end of the term or year. Assessment also includes observations from other school staff who are interacting with the student as well as observations from home. Inventories and checklists in different skill or subject areas can be included in this assessment. The teacher can also utilize the pre-test/instruct/post-test approach to assess the student's learning ease, style and strategies (Wilson, 1984; Bolg et al., 1993).

Continuous assessment of this nature gives rise to recording and monitoring changes, peculiarities, consistencies/inconsistencies in the student's performance and development, which may cause a teacher to have some concern about the student. The teacher's concern is not only that the student is demonstrating some difficulty with the curriculum, but that he/she (the teacher) needs assistance in

adjusting the program to accommodate the student's learning needs (Wilson, 1984; Bolig et al., 1993). These concerns can be applied equally to gifted and to problematic learning.

At this point the teacher collaborates with other teachers and special education resource staff in conducting more systematic educational assessment to find a fit between the student's level of functioning and pace of learning. Following this, they collaboratively plan a program with objectives for the teacher and student to achieve. The regular education teacher implements this modified program in the classroom, with continuous monitoring of achievement and objectives. The program is working well if the student is accomplishing the goals. If above-average exceptionality is suspected at this stage, and cannot be appropriately addressed in the regular classroom, a Gifted Resource Consultant should become involved.

At this point, the next step is to reassess the program with the other staff members which might indicate ways the present program can be adjusted by including additional resources or personnel in or out of the classroom. The degree to which assistance is needed and the frequency of adjustments of the regular program are indications that the student might in fact be more exceptional than can be appropriately educated without more specialized services. If it appears necessary after making minor modifications, formal assessments could prove useful to pinpoint the mastery level of the student in various academic domains. These can be in the form of standardized achievement tests, above grade achievement tests, and possibly IQ tests (Matthews, 1996; 1993; unpublished (b)). The intelligence tests can be especially useful if the student performs inconsistently across tasks or domain or in one particular task or domain, or if there are behavioral problems (Matthews, personal communication, 1994; Humphries, personal communication, July, 1994).

Depending on the extremity of the results from the formal assessment, along with information from the continuous assessment, the school staff might decide that the regular classroom is unable to provide the necessary resources to advance the student's learning. At this time plans should be made to go through a formal identification process with the aim of determining the ideal or practical learning environment and placement for the student.

The ideal placement or program might take the student back into the regular classroom or into a segregated setting or into some combination of both (Wilson, 1984; Wilson et al., 1991). Matthews (1994) has suggested twelve options open to educators working with students with above average academic performance, which can be incorporated into the model when the student's learning characteristics and competencies are discovered. Some of these options mentioned in the following paragraphs are consistent with the Preventive Model. The program that is designed for the student should remain integrated as much as possible with the regular education curriculum, and be subject to continuous assessment to monitor the fit with the student's learning characteristics and level of functioning (Wilson, 1984).

Strengths of the model for gifted education

Continuous assessment and monitoring of strengths and weaknesses in skill and subject areas provide a much better chance of locating students' domain-specific gifted-level competencies than more traditional summative assessment allows (Bolg et al., 1993; Matthews, 1997; unpublished (a)). Therefore, the data collected from assessment can be used for planning programs that involve strengthening students' weaknesses and appropriately challenging their strengths, thus providing all-rounded development for gifted students. Continuous process-based assessment can prevent above average students from becoming educationally underserved if these assessments are started early enough in the student's educational life. Continuous assessment works to prevent underserved students from slackening in performance and losing motivation, as long as instruction is matched to assessment findings (Wilson, 1984).

The Preventive Model facilitates the decision-making process when deciding on programming options most suitable for the learning needs of exceptionally able students. The informal assessments provide a fair idea of the student's pace and style of learning, and the formal assessments give an indication of mastery level in domain-specific areas (Matthews 1996; unpublished (b); Bolig et al., 1993; Keating, 1991). The meshing of information from both types of assessments allows a sensitivity to the intra-individual differences that exist among above average exceptional students (Matthews & Keating, 1995; Bolig et al., 1993; Keating, 1991). For example, two students with similar mastery level in a particular domain may in fact have different pace needs and learning styles to learning the material, which should be reflected in programming options such as compacting and acceleration.

Continuous assessment can aid in deciphering the student's learning preferences (Bolg et al., 1993). One student may prefer to read up on material first or take in a teacher's lecture, while the other may receive the information better in a more active teaching and learning environment. One student may enjoy independent work, while the other thrives best in small group experiences. Therefore, careful consideration should be given to various options like guided independent study, project-based learning and apprenticeships for meeting each student's individual learning styles and preferences (Matthews, 1994; Keating, 1991). Before choosing any of the available options, consideration should be given to the students' level of thinking and social skills. Therefore, such skills should be accounted for during continuous assessment, prior to and after an option is selected for the student.

The Preventive Approach eliminates the need to define giftedness, since it is competency-based. It looks more towards assessing individual competencies and how these competencies can be met by modification of the regular curriculum. Above-average exceptionality is determined on the basis of competencies that are valuable to a particular cultural and ethnic setting. This approach also encourages the inclusion and acceptance of competencies displayed by students who may not be part of the dominant culture (Hatch & Gardner, 1986; Bolig et al., 1993; Matthews, 1997; unpublished (a)).

Concerns of the model for gifted education

One drawback of continuous assessment is that it is time consuming. It takes a longer time than formal, static assessments to determine learning needs, and the "misfit" and eventual "fit" between assessment and programming (Bolg et al., 1993; Humphries, personal communication, July, 1994). During the time between assessment and readjustments, careful consideration should be given to keeping the above-average exceptional student motivated and interested in learning, (Bolg et al., 1993, p. 113). Another drawback is finding the exact level and pace for students of extreme exceptionality. A student who is many grades ahead may be given readjustments to higher grades at such a slow pace in relation to his pace of learning, and actual level of ability, thus becoming an under-served exceptional student. Continuous informal assessment does not always provide the information needed to determine a student's learning needs, especially if that student's performance is inconsistent across the domains. Standardized assessments may be necessary to pinpoint details on a certain aspect of functioning, especially in severe or extreme cases (Humphries, personal communication, July, 1994).

While continuous assessment is the most outstanding characteristic in the Preventive Model, the success of the model in the education of "gifted" students greatly depends on the skills of the teachers and resource staff to carry out efficient assessments and programming. Some teachers will not be concerned with the student who is performing consistently across domains or students who are under-served. This lack of concern comes from not being trained to be aware of the signs of the "gifted" or under-served gifted, or to carry out efficient informal assessments which require instructional task analysis (Humphries, personal communication, July, 1994).

The success of the Preventive Model for the education of above-average exceptional students, is not a matter of following steps delineated by the model. There is the need for teachers to be trained in effective assessment for programming for these gifted students, to at least become familiar with giftedness and encouraging the development of higher order skills. Gifted resource consultants may be vital for this model to succeed, especially where teachers do not have a clue about gifted education.

Similarities to Three Other Theories

The Preventive Model contains elements consistent with several other perspectives on intelligence, including Developmental Theory, the Dynamic Approach, and the Incremental Theory.

One element common to the four approaches is that they all view intelligence as "malleable". In other words, it can be shaped and developed. The fact that the Preventive Model utilizes continuous assessment as a means for monitoring and programming for learning strengths and weaknesses, learning styles and mastery, supports the notion that intelligence is not a static entity. Programming is carried out to improve weaknesses and develop strengths,

accommodate learning styles and levels of functioning. Programming strategies assist in the advancement of learning, thus intelligence is viewed as developmental, evolving, incremental and aided by improving variables in the instructional environment.

The Preventive Model also supports the idea common to the developmental and dynamic approaches, that intelligence is domain-specific. Continuous assessment is more likely to highlight the strengths of the gifted student in particular subject areas and skills. However, this feature is not as explicit in the incremental theory (Dweck & Henderson, 1989). In this case, the domain-specific competencies may be influenced more by the effort displayed by the student to develop problem-solving strategies in a certain area. The ease with which these strategies are learned and applied may be affected by the student's ease, motivation and interest with a specific body of knowledge or field (academic subject areas, sports, art, drama).

The emphasis on effort on the part of the student is a very strong feature of the four approaches. The success of these approaches in practice, particularly for gifted education, relies heavily on the student's attitude and motivation to work hard at mastering material, applying skills and to some extent, adapting to new and/or different educational settings/options. Improvements in one's intelligence cannot be accomplished by itself, without effort, thus reinforcing the idea that intelligence is not a static or fixed entity, operating on its own.

Attention to the learning process and product/performance are common to all four approaches. The Preventive, Developmental and the Dynamic approaches acknowledge the student's style, pace and level of learning (through assessments) as characteristics to be considered in programming to further learning advancements. However, the incremental theory's connection to the learning process and product/performance is not as obvious as in the other three approaches. From the Incremental perspective, the process of learning is developed by the student, whose self-confidence may increase if performance on a task is successful. There is no link to assessment or instructional programming, but there is some link to improving one's approach to learning.

Thus far, all four approaches share common elements with regards to intelligence being developmental, domain-specific, requiring effort on the part of the learner, and acknowledging both process and product information about the student's learning. These approaches also seem to be saying that the development of intelligence is dependant on the interaction between content, cognitive abilities, meta-cognitive skills, student's efforts and motivation and an appropriately stimulating environment.

The Preventive, Developmental and Dynamic approaches look upon the "how" of teaching content, (one component of the instructional environment which also involves the teacher/instructor), as important in facilitating and advancing learning, in combination with the student's motivation and effort, thus developing intelligence. On the other hand, the individual with the incremental belief strives to increase his knowledge and develop more efficient cognitive abilities through efforts on his part to learn and use meta-cognitive skills (Dweck et al., 1989). In essence, all four approaches seem to be lending themselves to the

notion that an individual can become gifted.

All four approaches indicate implications for developing advancements in learning which are tied into the teaching and learning environment. It is important to teach content within a positive and active environment. Positive in the sense that the students are motivated and encouraged to learn. Active in the sense that teaching encourages the development of higher order skills. Teaching should also include teaching students learning strategies specific to the domain being taught (Glaser, 1984). It stands to reason that the teachers' participation in the advancement of learning should also be included in the continuous assessment process.

The Preventive Approach shares the same assessment goal with the Developmental and Dynamic perspectives. The aim is to find that misfit between the student's level of functioning and learning characteristics and the instructional environment. Therefore, there is agreement between these three approaches with respect to the connection between assessment and intervention/programming, which in turn is a reflection of the perception that intelligence is not static. The Preventive Model supports the ecological influence on learning and intelligence, a feature evident in the Developmental and Dynamic views on intelligence. The connection between assessment of the instructional environment and programming/intervention are also features shared among these three perspectives on intelligence.

Recommendations for Educational Programs Offering Gifted Education

- * Resources and options for the above-average exceptional student should be determined by competencies and NOT labels.
- * Multiple forms of Assessment should be employed, including formal, informal, formative and summative.
- * Above-level testing in domain-specific areas should be carried out every term.
- * Assessment should include higher order skills in each domain.
- * The assessment of the success of interventions should also incorporate the student's motivation and attitude towards education.
- * The assessment of the fit between programming options and student's learning should include the teacher's involvement and participation in the learning process. It is often assumed that the gifted student can educate him/herself BUT teacher guidance is necessary if the advancement in learning is to persist.
- * Assessment should include both independent and group work, thus programming in these areas will have to be done.
- * Assessment of social skills should also be included in assessments so that social skills programming on an individual basis could be carried out. Social skills training should be incorporated into the gifted program, to ensure all rounded development, or opportunities should be made available to learn how to communicate with people, especially if programming options like apprenticeships, mentorships and above-grade classes are included.
- * A Gifted Resource Consultant should be made available to assist in assessment

and programming for gifted students. This person should also be equipped to provide in-service training for the regular education staff with regards to defining, understanding and dealing with giftedness.

* In-service and Pre-service teacher training should be carried out in the following areas:

- positive and negative behaviour and performance of gifted students at all levels of education
- informal assessment training
- understanding and interpreting formal test results
- training in motivating students
- interpersonal skills development to facilitate collaboration between regular and special education staff members.

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